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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,204

12/15/2003

Sciji Hashimoto

032177

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05/07/2007

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EXAMINER

HUNG, YUBIN

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

05/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/734,204

Applicant(s)

HASHIMOTO, SEIJI

Examiner

Yubin Hung

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/15/03</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:
  - P. 5, line 4: "D-F/I" should have been "D-I/F"

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 and claim 6 as dependent from claim 5 (denoted as claim 5:6, same for all other versions of claim 6) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 5 recites the limitation "the both sizes" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 5:6 inherits this problem and is similarly rejected.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 1:6, 2:6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (US 6,937,773).

7. Regarding claim 1, Nozawa discloses

- a detector for detecting *(a specified object with)* movement based on said plurality of screens of an image signal  
[Fig. 9, ref. 107; Fig. 11; Col. 12, line 65-Col. 13, line 5; Col. 13, line 45-Col. 14, line 20. Note that the difference operation in equation 14 is over two frames (i.e., screens). For the specified subject, see the additional disclosure from Nozawa below]
- a first validator for validating a first compression rate regarding a first portion image *(corresponding to said specified object, of one screen in which said specified object exists)*  
and  
a second validator for validating a second compression rate higher than said first compression rate regarding a second portion image *(corresponding to an object other than said specified object, of one screen in which said specified object exists)*  
[Fig. 9, refs. 103 & 106 (collectively serve both as the first and the second validators since they set the quantization precision, which is a form of compression rate); Col. 14, line 60-Col. 15, line 23, especially Col. 14, lines 65-66 (setting a higher quantization precision; this setting step is considered as "validating compression rate," per Fig. 3, refs. S3 and S11-S15 of the instance application). Note that this higher quantization precision (for the motion region, i.e., the first portion that corresponds to said specified object; see the discussion below) is considered the first compression rate and is different from a second compression rate corresponding to the lower quantization precision (for the periphery region, i.e., the second portion, and is considered as the "default" quantization precision from which the quantization precision for the first portion is raised)]

In addition, Nozawa further discloses, in a separate embodiment, the detection of a specified object with movement and encode it differently. [Fig. 3; Fig. 5A (the star is the specified object and the cylinder the "other" object); Col. 6, lines 1-2 and 20-22. Note that here the existence of the ROI, or the specified object, is determined and per the analysis above, a different compression rate is applied to the ROI.] The motivation for doing so would have been so that the ROI can be decoded at a quality higher than that of the image periphery, as Nozawa indicates in Col. 2, lines 12-16 and Col. 6, lines 1-2.

8. Regarding claim 2, note that per the analysis of claim 1, only when the ROI (i.e., the specified object) is detected will a raised quantization precision (the first compression rate) be used (to the ROI, i.e., the first portion); the second compression rate is applied to the remainder of the screen (i.e., the second portion). Therefore, when the specified object does not exist in the screen, the second compression rate is applied to the entire screen. In other word, the third compression rate (for a screen without the specified object) is the same as the second compression rate. [Note that refs. 103 & 106 collectively also serve as the third validator since 106 will not send a detection signal (to change quantization precision) if the specified object is not detected (considered as "not exist").]

9. Regarding claims 1:6 and 2:6, note that Nozawa further discloses that the screens are image signals from a camera [Fig. 1, ref. 1; Fig. 9, ref. 101; Col. 3, lines 40-41; Col. 12, lines 27-28].

10. Claim 7 is similarly analyzed and rejected as per the analysis of claim 1 since an apparatus effecting the method of claim 7 has been taught.

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11. Claims 3 and 3:6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (US 6,937,773) as applied to claims 1, 2, 1:6, 2:6 and 7 above, and further in view of Kaku (US 6,968,119).

12. Regarding claim 3, Nozawa discloses all limitations of its parent, claim 1.

Nozawa does not expressly disclose

- a fourth validator for validating a fourth compression rate higher than said second compression rate regarding said second portion image

However, Kaku discloses increasing the compression rate [Fig. 1, ref. 13 (considered the 4<sup>th</sup> validator); Fig. 6, ref. S43; Fig. 7, ref. S63; Col. 4, lines 23-26; Col. 6, lines 57-61; Col. 7, lines 49-67, especially lines 60-67. Note that the second compression rate (which is the same as the third and corresponds to the default quantization precision, per the analysis of claim 1) of Nozawa is considered to correspond to the compression

rate  $P_0$  of Kaku and  $P_1$  (Col. 6, lines 57-61 of Kaku) is considered the fourth compression rate.  $P_1$  is higher than  $P_0$  because the size of its corresponding compressed image is reduced (Col. 7, lines 60-63)].

Nozawa and Kaku are combinable because they both have aspects that are from the same field of endeavor of compression.

At the time of the invention, it would have been obvious to modify the invention of Nozawa with the teaching of Kaku are recited above. The motivation would have been to compress an image signal down nearly to a target size, as Kaku indicates in Col. 1, lines 55-56.

Therefore it would have been obvious to combine Kaku with Nozawa to obtain the invention as specified in claim 3.

13. Regarding claim 3:6, note that Nozawa further discloses that the screens are image signals from a camera [Fig. 1, ref. 1; Fig. 9, ref. 101; Col. 3, lines 40-41; Col. 12, lines 27-28].

***Allowable Subject Matter***

14. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

16. Claims 4:6 and 5:6 would be allowable if claims 4 and 5 were rewritten in the manner recited above.

17. The following is a statement of reasons for the indication of allowable subject matter:

A. Regarding claim 4, closest art of record Kaku, while disclosing increasing compression rate based on a predetermined size condition (by comparing the size of a compressed image signal with a target size), the condition is not satisfied between a screen in which the specified subject exists and another screen in which the specified subject does not exist, which is a limitation of claim 4.



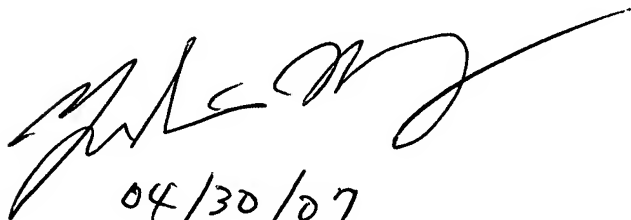
***Conclusion and Contact Information***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Li (US 2002/0080878) – discloses providing additional bits for coding region of interest
- Fukushima (US 6,917,384) – discloses applying different compression ratios to different ROIs in JPEG 2000 encoding
- Shen et al. (US 5,965,088) – discloses increasing compression ratio as needed
- Araki (US 6,980,703) –disclose recompressing a compressed file at a greater compression ration when additional free space is needed
- Piscaglia et al. ("ROI-based Multiresolution Compression of Heart MR Images," SPIE Vol. 3335, Feb 1998, pp. 583-594) – discloses applying different compression ratios to ROI and non-ROI portions of images

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (571) 272-7451. The examiner can normally be reached on 7:30 - 4:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



04/30/07

Yubin Hung  
Patent Examiner  
Art Unit 2624  
April 30, 2007